



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,917	01/18/2001	Laurence H. Cooke	260/086	8269

23639 7590 05/25/2005  
BINGHAM, MCCUTCHEN LLP  
THREE EMBARCADERO CENTER  
18 FLOOR  
SAN FRANCISCO, CA 94111-4067

EXAMINER

DIMYAN, MAGID Y

ART UNIT PAPER NUMBER

2825

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

# Office Action Summary

Application No.

09/765,917

Applicant(s)

COOKE ET AL.

Examiner

Magid Y. Dimyan

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 13-23 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Acknowledgement***

1. Receipt is acknowledged of the Amendments to the Claims, and to the Remarks, both filed on 24 March 2005. It is acknowledged that the Applicants have amended claims 1 and 5, cancelled claims 9 – 12, and added new claims 13 – 23. Claims 1 – 8 and 13 – 23 remain pending in this Application.

### ***Election/Restrictions***

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1 – 8, drawn to an interface circuit for a state machine to perform as a target and an initiator of a communication, wherein initiator signal is consistent with a virtual component interface protocol, classified in class 716, subclass 1.

II. Claims 13 – 26, drawn to a method for communicating between electrical components in a circuit, classified in class 716, subclass 1.

3. The inventions are distinct, each from the other because of the following reasons: Inventions Group I (claims 1 – 8) and Group II (claims 13 – 26) are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group I has separate utility such as an interface circuit for a state machine, while invention Group II has separate utility such as a method for communicating between electrical components in a circuit. See MPEP §806.05(d).

4. Because these two inventions are distinct for the reasons given above, and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Drawings***

6. The drawings are objected to because: upon further examination, the figures were found to be uneven and unclear. Corrected drawing sheets in compliance with 37

CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 1 and 5 recite the limitation "**said initiator signal**" in claim 1, line 8 and in claim 5, line 7. There is insufficient antecedent basis for this limitation in the claims.

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1 – 8 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,477,691 to Bergamashi/Rab et al. (hereinafter, "Bergamashi").

12. Regarding claim 1, Bergamashi teaches a interface for communicating between electronic components having multiple connection points (see Abstract; col. 4, lines 30 – 40; Fig. 2) comprising: (a) a circuit for a state machine (i.e., synthesizable) to perform as

a target (i.e., slave) and an initiator (i.e., master) of a communication (see Fig. 3; col. 5, lines 20 – 48; col. 6, lines 15 – 24); and (b) a plurality of pins connected to the circuit corresponding to a set of target signals handling communications involving the component as a target and a set of initiator signals handling communications involving the component as an initiator (see also Figs. 1, 3, 7; col.8, line 35 – col. 9, line 54), wherein the initiator signal is consistent with a virtual component interface protocol (see Figs. 2, 3, 8; col. 9, line 55 – col. 10, line 24). Bergamashi thus recites all the claimed limitations.

13. Referring to claims 2 – 4, see Fig. 7 (v1/(r1, r2), v2 (r3/r4), v3 (r5/r6), etc), which show all the claimed interface elements of (a) unidirectional pins with at least one input pin and one output pin; (b) number of input pins equal to number of output pins; and (c) the set of target signals is symmetric with the set of initiator signals.

14. Claims 5 – 8 contain the same limitations as in claims 1 – 4, respectively, and thus the same rejections also apply.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,751,723 to Kundu et al cites an SoC IC with an FPGA core having logic clusters, SRAM modules, routing resources, and an FPGA **virtual component interface translator** having inputs and outputs, wherein the inputs are connected to the FPGA core, a microcontroller, and a **microcontroller virtual component interface translator**.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y. Dimyan whose telephone number is (571) 272-1889. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Magid Y Dimyan  
Examiner  
Art Unit 2825

myd  
20 May 2005

M711

*Thuan Do*

THUAN DO

primary examiner.

5/22/2005

